

CLAIMS

What is claimed is:

1. A method comprising:
creating an electronic file in a computer system;
creating metadata regarding the file, and wherein the metadata defines at least in part data management preferences for the file; and
implementing, autonomously of a user of the file, storage strategies for the file based on the metadata.
2. The method as defined in claim 1 wherein creating metadata regarding the file further comprises supplying, by at least one of the user and a system administrator, a desired access speed for the file.
3. The method as defined in claim 1 wherein creating metadata regarding the file further comprises supplying, by at least one of the user and a system administrator, a desired reliability for the file.
4. The method as defined in claim 1 wherein implementing storage strategies based on the metadata further comprises storing the file on one or more storage devices selected by a software agent based on the metadata.
5. The method as defined in claim 4 further comprising moving, by a software agent, the file to a different set of one or more storage devices based on the metadata.
6. The method as defined in claim 4 further comprising deleting, by a software agent, the file after an expiration of a period of time indicated in the metadata.
7. The method as defined in claim 1 further comprising providing, by a software agent, the file to the user from a storage device without the user having to select the source from which the file is provided.

8. A computing system comprising:
 - a host computer adapted to execute user programs;
 - a server coupled to the host computer;
 - a plurality of storage devices coupled to the server;
 - wherein the host computer communicates files to the server for storage on at least one of the plurality of storage devices; and
 - wherein a program executing on the server selects on which of the plurality of storage devices to store the files on a file-by-file basis based on storage characteristic preferences supplied for each file.
9. The computer system as defined in claim 8 wherein each of the plurality of storage devices has an access speed, and wherein the programs executing on the server select one or more of the plurality of storage devices based on access speed preferences supplied for each file.
10. The computer system as defined in claim 8 wherein each of the plurality of storage devices has a reliability, and wherein the programs executing on the server select one or more of the plurality of storage devices based on reliability preferences supplied for each file.
11. The computer system as defined in claim 8 wherein the program executing on the server migrates a file from a first of the plurality of storage devices to a second of the plurality of storage device without direction from the user programs.
12. The computer system as defined in claim 11 wherein the program executing on the server migrates the file based on expiration of a time period specified in the storage characteristic preferences for the file.
13. The computer system as defined in claim 11 wherein the program executing on the server migrates the file based on obsolescence of the first of the plurality of storage devices as determined by the programs executing on the server.

14. The computer system as defined in claim 8 wherein the program executing on the server deletes a file from the plurality of storage devices without direction from the user programs based on expiration of a time period specified in the storage characteristic preferences for the file.
15. A system comprising:
 - a client computer;
 - a server coupled to the client computer;
 - a first storage device coupled to the server having a storage attribute;
 - a second storage device coupled to the server having a storage attribute;
 - wherein the server appears to programs executing on the client computer as a network storage device operating in a user namespace and in a user file structure; and
 - wherein the server stores the file on at least one of the first and second storage devices in a global namespace, the selection of the storage location made by the server based on the attributes of the storage devices and storage preferences for the file.
16. The system as defined in claim 15 wherein the server further comprises:
 - a software agent executing on the server;
 - wherein the software agent interfaces with the client computer and simulates the network storage device operating in the user namespace; and
 - wherein the software agent decides on which of the first and second storage devices to store the file based on the attributes of the storage devices and the storage preference for the file.
17. The system as defined in claim 16 wherein the server further comprises:
 - a software service executing on the server; and
 - wherein the software service stores the file on one of the first and second storage devices based on instructions from the software agent.

18. The system as defined in claim 17 further comprising:
 - a first software service associated with the first storage device, the first software service executing on the server;
 - a second software service associated with the second storage device, the second software service executing on the server; andwherein the software agent directs at least one of the first and second software services to store the file on the storage device to which the software service is associated.
19. A computing system comprising:
 - a first means for executing programs;
 - a second means for executing programs coupled to the first means for executing;
 - a plurality of means for storing programs and data coupled to the second means for executing;wherein the first means for executing communicates files to the second means for executing for storage on at least one of the plurality of means for storing; and
wherein program executing on the second means executing selects on which of the plurality of means for storing to store the files on a file-by-file basis based on storage characteristic preferences supplied for each file.
20. The computer system as defined in claim 19 wherein each of the plurality of means for storing has an access speed, and wherein the program executing on the second means for executing selects one or more of the plurality of means for storing based on access speed preferences supplied for each file.
21. The computer system as defined in claim 19 wherein each of the plurality of means for storing has a reliability, and wherein the program executing on the second means for executing selects one or more of the plurality of means for storing based on reliability preferences supplied for each file.

22. The computer system as defined in claim 19 wherein the program executing on the second means for storing migrates a file from a first of the plurality of means for storing to a second of the plurality of means for storing without direction from the user programs.
23. The computer system as defined in claim 22 wherein the program executing on the second means for storing migrates the file based on expiration of a time period specified in the storage characteristic preferences for the file.
24. The computer system as defined in claim 22 wherein the program executing on the second means for storing migrates the file based on obsolescence of one of the plurality of means for storing as determined by the program executing on the second means for storing.
25. The computer system as defined in claim 19 wherein the program executing on the second means for storing deletes a file from the plurality of means for storing without direction from the user based on expiration of a time period specified in the storage characteristic preferences for the file.